



-1-

SEQUENCE LISTING

<110> Yusoff, Khatijah

Tan, Wen Siang

Kho, Chiew Ling

<120> Nucleotide Sequences of the Nucleocapsid (NP) and Phosphoprotein (P) Genes of a Malaysian Velogenic Newcastle Disease Virus Strain AF2240 and the Production of the NP and P Proteins in Escherichia coli

<130> S1436/7007 (JRV)

<140> US 09/970,851

<141> 2001-10-04

<160> 23

<170> PatentIn version 3.0

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<211> 1470

<212> DNA

<213> Newcastle disease virus

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35 40 45

Trp Asn Phe Ala Val Phe Cys Leu Arg Ile Ala Val Ser Glu Asp Ala
50 55 60

Asn Lys Pro Leu Arg Gln Gly Ala Leu Ile Ser Leu Leu Cys Ser His
65 70 75 80

Ser Gln Val Met Arg Asn His Val Ala Leu Ala Gly Lys Gln Asn Glu
85 90 95

Ala Thr Leu Thr Val Leu Glu Ile Asp Gly Phe Thr Ser Ser Val Pro
100 105 110

Gln Phe Asn Asn Arg Ser Gly Val Ser Glu Glu Arg Ala Gln Arg Phe
115 120 125

Met Val Ile Ala Gly Ser Leu Pro Arg Ala Cys Ser Asn Gly Thr Pro
130 135 140

Phe Val Thr Ala Gly Val Glu Asp Asp Ala Pro Glu Asp Ile Thr Asp
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Thr Leu Glu Arg Ile Leu Ser Ile Gln Ala Gln Val Trp Val Thr Val
165 170 175

Ala Lys Ala Met Thr Ala Tyr Glu Thr Ala Asp Glu Ser Glu Thr Arg
180 185 190

Arg Ile Asn Lys Tyr Met Gln Gln Gly Arg Val Gln Lys Lys Tyr Ile
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Leu His Pro Val Cys Arg Ser Ala Ile Gln Leu Thr Ile Arg His Ser
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Leu Ala Val Arg Ile Phe Leu Val Ser Glu Leu Lys Arg Gly Arg Asn
225 230 235 240

Thr Ala Gly Gly Ser Ser Thr Tyr Tyr Asn Leu Val Gly Asp Val Asp
245 250 255

Ser Tyr Ile Arg Asn Thr Gly Leu Thr Ala Phe Phe Leu Thr Leu Lys
260 265 270

Tyr Gly Ile Asn Thr Lys Thr Ser Ala Leu Ala Leu Ser Ser Leu Thr
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Gly Asp Ile Gln Lys Met Lys Gln Leu Met Arg Leu Tyr Arg Met Lys
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Gly Glu Asn Ala Pro Tyr Met Thr Leu Leu Gly Asp Ser Asp Gln Met
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Ser Phe Ala Pro Ala Glu Tyr Ala Gln Leu Tyr Ser Phe Ala Met Gly
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Asp Phe Met Ser Thr Ser Phe Trp Arg Leu Gly Val Glu Tyr Ala Gln
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Ala Gln Gly Ser Ser Ile Asn Glu Asp Met Ala Ala Glu Leu Lys Leu
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Thr Pro Ala Ala Arg Arg Gly Leu Ala Ala Ala Gln Arg Val Ser
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Glu Glu Thr Gly Ser Val Asp Ile Pro Thr Gln Gln Ala Gly Val Leu
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Thr Gly Leu Ser Asp Gly Gly Pro Arg Ala Ser Gln Gly Gly Ser Asn
420 425 430

Lys Ser Gln Gly Gln Pro Asp Ala Gly Asp Gly Glu Thr Gln Phe Leu
435 440 445

Asp Leu Met Arg Ala Val Ala Asn Ser Met Arg Glu Ala Pro Asn Ser
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35 40 45

Ile Ala Trp Glu Lys His Gly Ser Ile Gln Pro Ser Thr Ser Gln Asp
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Asn Pro Asp Gln Gln Asp Arg Pro Asp Lys Gln Leu Ser Thr Pro Glu
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Gln Ala Thr Pro His Asn Ser Ser Pro Ala Thr Ser Ala Glu Pro Leu
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Pro Thr Gln Ala Ala Gly Glu Ala Gly Asp Thr Gln Leu Lys Thr Gly
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Ala Ser Asn Ser Leu Leu Ser Met Leu Asp Lys Leu Ser Asn Lys Pro
115 120 125

Ser Asn Ala Lys Lys Gly Pro Trp Ser Ser Pro Gln Glu Gly Tyr His
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Gln Pro Pro Thr Gln Gln His Gly Asp Gln Pro Asn Arg Gly Asn Ser
145 150 155 160

Gln Glu Arg Leu Arg His Gln Ala Lys Ala Ala Pro Gly Ser Arg Gly
165 170 175

Thr Asp Ala Ser Thr Ala Tyr His Gly Gln Trp Lys Glu Ser Gln Leu
180 185 190

Ser Ala Gly Ala Thr Pro His Val Leu Gln Ser Gly Gln Ser Gln Asp
195 200 205

Ser Thr Pro Val Pro Val Asp His Val Gln Pro Pro Val Asp Phe Val
210 215 220

Gln Ala Met Met Thr Met Met Glu Ala Leu Ser Gln Lys Val Ser Lys
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Val Asp Tyr Gln Leu Asp Leu Val Leu Lys Gln Thr Ser Ser Ile Pro
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Met Met Arg Ser Glu Ile Gln Gln Leu Lys Thr Ser Val Ala Val Met
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Glu Ala Asn Leu Gly Met Met Lys Ile Leu Asp Pro Gly Cys Ala Asn
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Ile Ser Ser Leu Ser Asp Leu Arg Ala Val Ala Arg Ser His Pro Val
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Leu Ile Ser Gly Pro Gly Asp Pro Ser Pro Tyr Val Thr Gln Gly Gly
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Glu Met Thr Leu Asn Lys Leu Ser Gln Pro Val Gln His Pro Ser Glu
325 330 335

Leu Ile Lys Ser Ala Thr Ala Gly Gly Pro Asp Met Gly Val Glu Lys
340 345 350

Asp Thr Val Arg Ala Leu Ile Thr Ser Arg Pro Met His Pro Ser Ser
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